

## INFORMATION REPORT

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COUNTRY Germany (Puschen Zone)

SUBJECT Aluminum Plating Plant at Stahl- und Walzwerke Brandenburg

PLACE ACQUIRED

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1. At the end of April 1951 an aluminum plating plant for armor plate and sheeting was set up at the Stahl- und Walzwerke Brandenburg (VVB Brandenburg), Brandenburg/Havel under the direction of Dr. Kintscher, leading East Zone metallurgist, Dr. Alfred Leichner, Czechoslovakian specialist from the metal-refining plant Tatra, and the Russian engineer Davidov.
2. The object is to provide steel with a smooth, noncorrosive plating of aluminum alloy. The color of this plating dispenses with the necessity for camouflage paint. In the case of sea-going craft, it has the additional advantage of keeping them operational three times as long before returning them to dry dock for cleaning.
3. Plywood delivered from Czechoslovakia is also being plated with aluminum alloy. This so-called "armored wood" (Panzer-Holz), which is springy and even pliable, is produced in dimensions of 600 x 1200 mm and 800 x 1600 mm and has an entirely smooth surface. It is delivered in sealed freight trains to Brest-Litovsk as top priority shipments. Only Polish rolling stock is used for this purpose. In Brest-Litovsk consignments are unloaded for transshipment and forwarded to the USSR, where the wood is used mainly in aircraft construction and shipbuilding.
4. At the Stahl- und Walzwerke, Brandenburg, arrangements are being made for the mass production of steel and wood plated with aluminum alloy.
5. Successful tests were made by the above-mentioned specialists at the end of March 1951.
6. During experiments, the electric annealing furnaces (Gliihofen) for aluminum and its alloys proved inadequate, since the process requires a temperature which could not be maintained. In addition, the output of the plant's own power station was already fully absorbed.

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7. On the advice of the supervising experts, it was therefore decided to dispense with the electric furnaces and to replace these with gas-heated furnaces. As the new gas-heated furnaces could operate on high-grade gas only, a gas-generating plant was ordered from the firm of Julius Pintsch, Berlin and Fürstenwalde/Spree. Early in April 1951, this firm installed an automatic (one-man) gas plant with a daily capacity of 5,000 cu.m. The necessary coal supplies for the gas plant came exclusively from the Waldenburg area in Silesia. A gas specialist with 30 years experience, Bruns, is responsible for the entire gas plant. He is provided with a small laboratory with all necessary pressure and testing apparatus.
8. Plating is done with a gas heated hot roller (Warmwalzen) with a temperature between 450 and 520 degrees\* under high pressure. (Research to use higher temperature is still in progress). This produces a connection similar to that obtained by welding. The resulting aluminum plating cannot be separated by mechanical pressure.
9. Through special contact material, chemical and electrical properties are obtained as desired. The plated material retains the mechanical consistency of the basic material and also the special properties of the plating.
10. Plating is done on one or both sides with pure aluminum and with aluminum alloys, depending on subsequent use of material. In almost all cases aluminum with copper content is used in the contact material, but its exact composition is a secret.

\*

Comment: Probably centigrade.

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